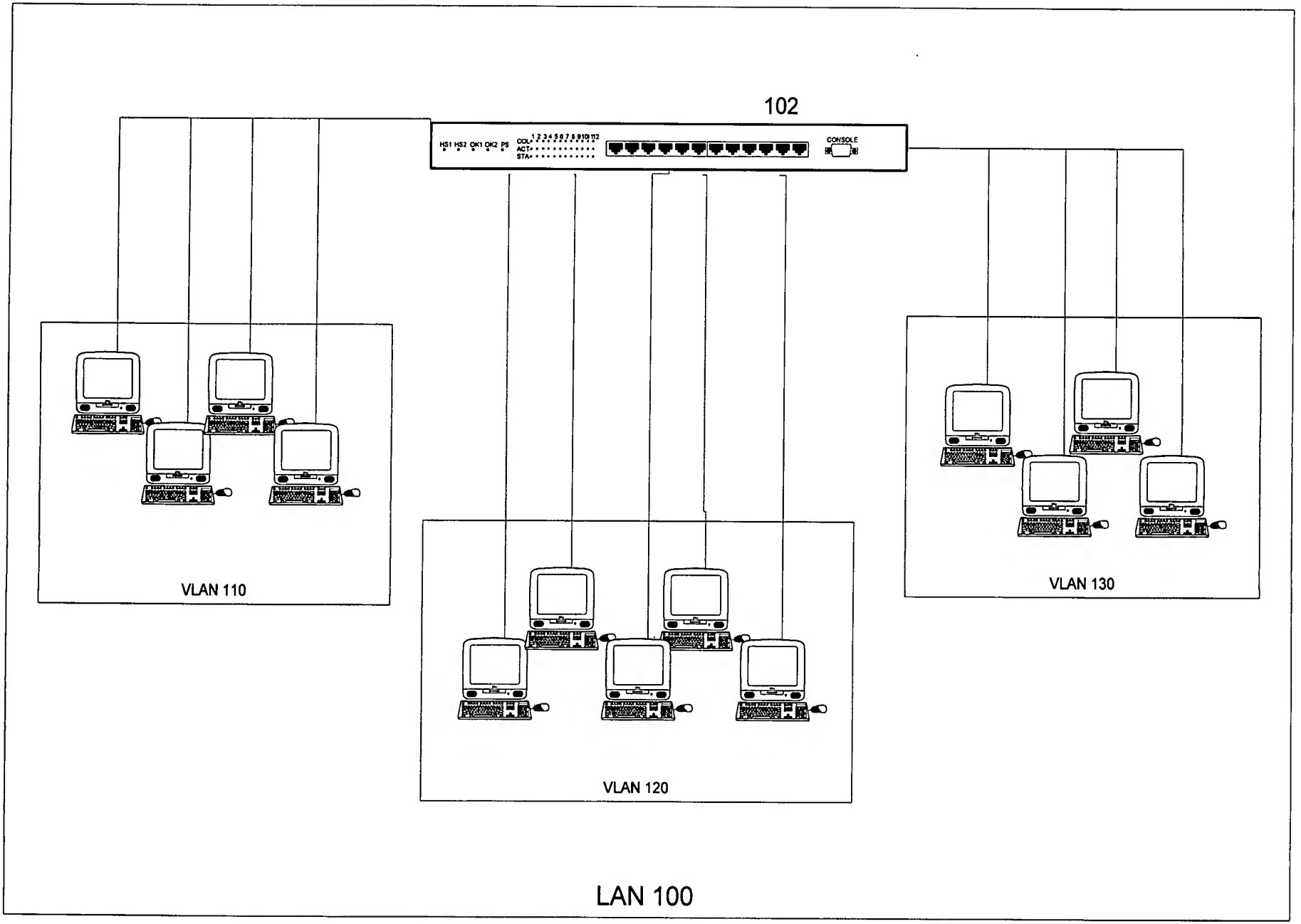
102
HS1 HS2 OK1 OK2 PS
COL
ACT
STA
CONSOLE
VLAN 110
VLAN 120
VLAN 130
LAN 100

Figure 1

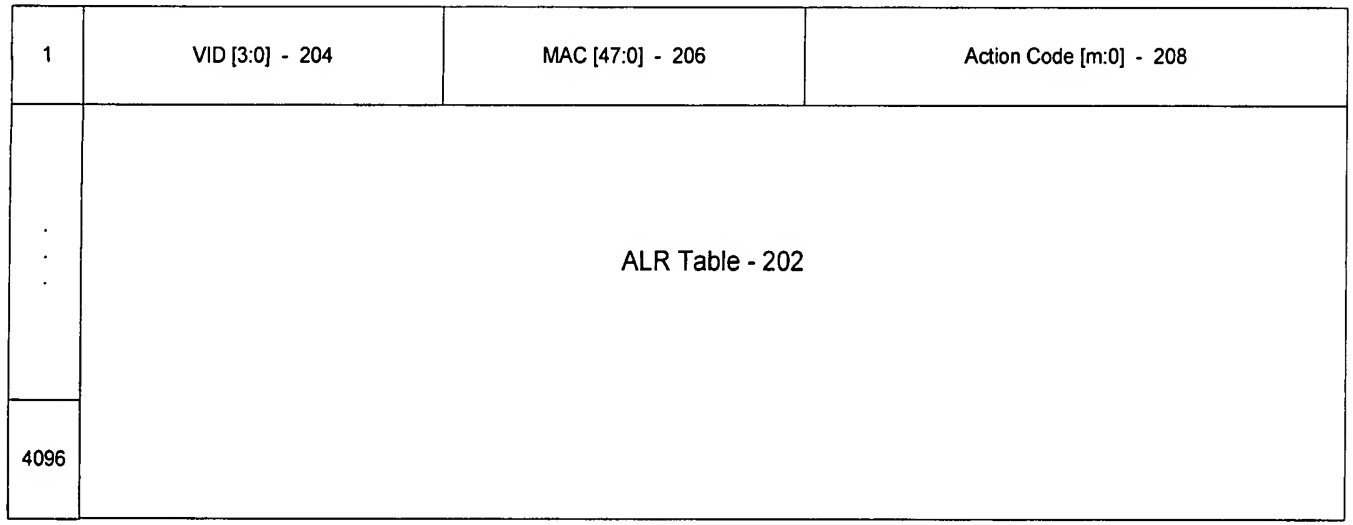

Figure 2

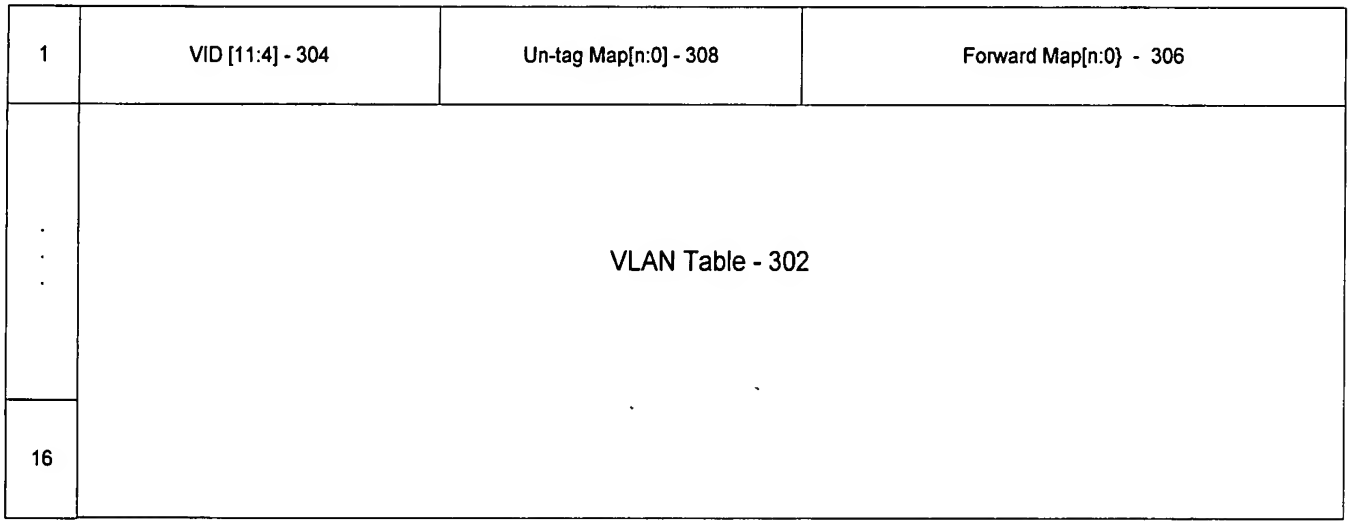

Figure 3

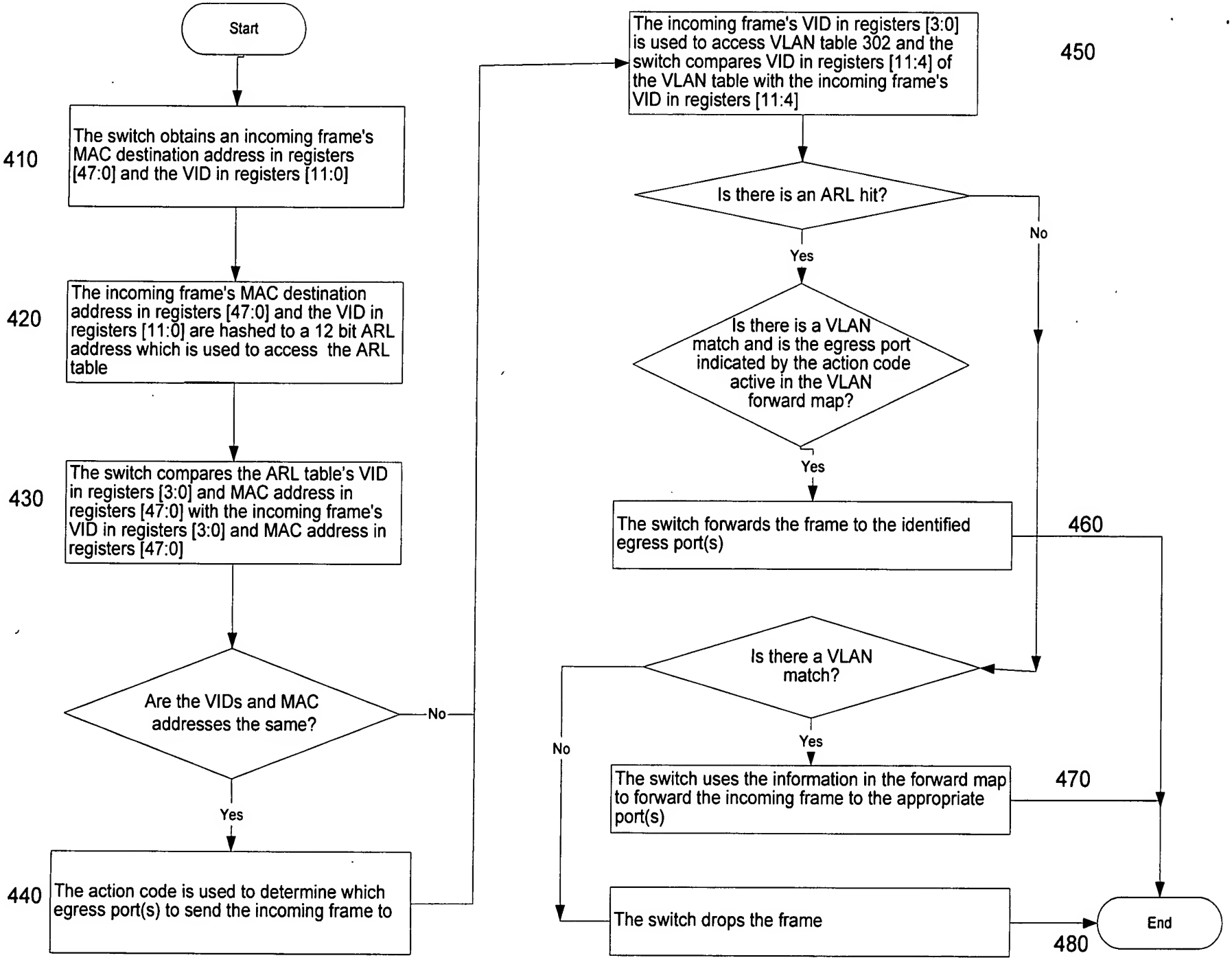
Start
410
The switch obtains an incoming frame's MAC destination address in registers [47:0] and the VID in registers [11:0]
420
The incoming frame's MAC destination address in registers [47:0] and the VID in registers [11:0] are hashed to a 12 bit ARL address which is used to access the ARL table
430
The switch compares the ARL table's VID in registers [3:0] and MAC address in registers [47:0] with the incoming frame's VID in registers [3:0] and MAC address in registers [47:0]
Are the VIDs and MAC addresses the same?
No
Yes
440
The action code is used to determine which egress port(s) to send the incoming frame to
The incoming frame's VID in registers [3:0] is used to access VLAN table 302 and the switch compares VID in registers [11:4] of the VLAN table with the incoming frame's VID in registers [11:4]
450
Is there is an ARL hit?
No
Yes
Is there is a VLAN match and is the egress port indicated by the action code active in the VLAN forward map?
Yes
The switch forwards the frame to the identified egress port(s)
460
Is there a VLAN match?
No
Yes
The switch uses the information in the forward map to forward the incoming frame to the appropriate port(s)
470
The switch drops the frame
480
End

Figure 4